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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 July 2003*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 - 36* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 - 36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1.   Claims 1 – 36 are pending.

Claim Objections

2.   Claim 36 is objected to because the term "coupleable" is not proper word. The examiner cannot locate that term in the dictionary. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4.   Claims 1 – 19, 21 – 24 and 32 - 36 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The following terms lack of antecedent basis:

"the subsequent", "said target computer system", in claim 1

"the rejection", "the respective", in claim 7

"the step of determining", in claim 8

"the step of distributing", in claim 9

"the processing", in claim 11

"the current operating load", in claim 13

"the issuance", "the relative", in claim 14

"the default", in claim 19

"the combination", in claims 21 and 31

Claim Rejections - 35 USC § 101

5.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6.   Claims 1 – 12 and 25 – 36 are rejected under 35 U.S.C. 101 because they are directed to non-statutory subject matter.

7.   **Claims 1 – 12 and 25 – 36** are directed to method steps, which can be practiced mentally in conjunction with pen and paper, therefore they are directed to non-statutory subject matter. Specifically, as claimed, it is uncertain what performs each of the claimed method steps. Moreover, each of the claimed steps, inter alias, selecting, evaluating, incorporating, responding, receiving, determining, distributing, processing, forwarding, can be practiced mentally in conjunctions with pen and paper. The claimed steps do not define a machine or computer implemented process [see MPEP 2106]. Therefore, the claimed invention is directed to non-statutory subject matter. (The examiner suggests applicant to change "method" to "computer implemented method" in the preamble to overcome the outstanding 35 U.S.C. 101 rejection).

Claim Rejections - 35 USC § 103

8.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9.   Claims 1 – 6 and 25 - 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Ballard (US 6,078,960).

10.   Regarding **claim 1**, Ballard discloses a method of cooperatively loud-balancing a cluster

of server computer systems for servicing client requests issued with respect to a plurality of

client computer systems, said method comprising the steps of:

    a) selecting, by a client computer system, a target server computer system from said

cluster of server computer systems to service a particular client request using available

accumulated selection basis data (col. 1, lines 46 – 56);

    b) evaluating, by said target server computer system, said particular client

request to responsively provide instance selection basis data dynamically dependent on the

configuration of said target server computer and said particular client request (col. 6, lines 52 –

54); and

    c) incorporating said instance selection basis data into said available accumulated

selection basis data to affect the subsequent selection of said target computer system with respect

to a subsequent instance of said particular client request (col. 2, lines 11 – 16, col. 6, lines 61-

64).

    With respect to the step of incorporating the instance selection basis data into the

available accumulated selection basis data to affect the subsequent selection of the target

computer system, Ballard discloses that client receives an updated load balance list when

accessing the server computer (col. 2, lines 11 – 16). Thus, it would be obvious for one of an

ordinary skill in the art, at the time of the invention was made, to recognize the instance selection

basis data is including/incorporate into the available accumulated selection basis data to reflect

an updated load balance list to achieve better performance in load balancing.

11.   Regarding **claim 2**, Ballard discloses the instance selection basis data includes

representation of a dynamically determined performance level of said target server computer

system and wherein said available accumulated selection basis data incorporates said instance

selection basis data with identifications of said target server computer and said particular client

request (col. 1, lines 63 – 65, col. 2, lines 6 – 27).

12.   Regarding **claim 3**, Ballard discloses the instance selection basis data includes a

representation of a policy evaluation of the particular client request relative to the target server

computer system (col. 1, lines 53 – 56).

13.   Regarding **claim 4**, Ballard discloses the instance selection basis data includes a load

value and a selection weighting value, wherein the load value represents a dynamically

determined performance level of the target server computer system and the selection weighting

value represents a policy evaluation of the particular client request relative to the target server

computer system and wherein the available accumulated selection basis data incorporates the

instance selection basis data with identifications of the target server computer and the particular

client request (figs. 4A, 4B, col. 1, line 53 – 56, 63 – 65, col. 2, lines 6 – 27).

14.   Regarding **claim 5**, Ballard discloses the step of selecting selects the target server

computer system based on predetermined selection criteria including the relative values of the

load value and the selection weighting value with respect to said particular client request as recorded in the available accumulated selection basis data (figs. 4a and 4b).

15.   Regarding **claim 6**, Ballard discloses the instance selection basis data provides for a rejection of the particular client request and wherein the step of selecting includes selecting an alternate server computer system from the cluster of server computer systems on the target server system to service the particular client request based the available accumulated selection basis data (col. 2, lines 17 – 28).

16.   **Claims 25 – 28** are rejected on the same ground as stated in claims 1 – 2 above.

17.   Claims 7 – 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mangipudi et al. (US Pat. Application Publication 2004/0162901, hereinafter Mangipudi).

18.   Regarding **claim 7**, Mangipudi discloses a method of load-balancing a cluster of server computer systems in the cooperative providing of a network service, the method comprising the steps of:

        a) selecting, by each of a plurality of host computers, server computers within a computer cluster to which to issue respective service requests (page 2, paragraph 18, page 4, paragraph 38, page 5, paragraph 44, fig. 2);

        b) responding, by a corresponding one of the plurality of host computers, to the rejection of a predetermined service request by selecting a different server computer to which to issue the predetermined service request (page 6, paragraph 51, page 7, paragraph 62);

       c) receiving, in regard to the respective service requests by the respective ones of the

plurality of host computers, load and weight information from the respective server computers

pages 2 - 3, paragraph 18); and

       d) evaluating, by each of the plurality of host computers, the respective load and weight

information received with respect to server computers of the computer cluster as a basis for a

subsequent performance of the step of selecting (pages 2 - 3, paragraph 18, 21, page 5, paragraph

44).

       With respect to the step of selecting a different server to issue the request in responding

to the rejection of request, Mangipudi discloses that each server has a threshold and that the

service is redirects to anther server if this threshold is exceeded (page 6, paragraph 51, page 7,

paragraph 62). Thus, it would have been obvious for one of an ordinary skill in the art, at the

time the invention was made, to recognize that Mangipudi's system provide such feature by

selecting a different server to issue the request in responding to the rejection when redirecting

request to another server if the current server exceeds its threshold limit to maintain the quality

of service.

19.   Regarding **claim 8**, Mangipudi discloses the step of determining said weight information

by each of said server computers with respect to each service request received, said weight

information being determined from a predefined policy association between a received service

request and the identity of the one of said server computers that receives the service request

(page 3, paragraph 21).

20.   Regarding **claim 9**, Mangipudi discloses the step of distributing initial information by

said cluster of server computers of said host computers, said initial information providing

selection lists of said server computers to said host computers (page 3, paragraph 21).

21.   Regarding **claim 10**, Mangipudi discloses the load information is representative of

a plurality of load factors including network loading and processor loading (page 3, paragraph

18, 21).

22.   Regarding **claim 11,** Mangipudi discloses the load information is representative of the

processing of a current set of service requests including a plurality of processor functions (page

5, paragraph 44, page 6, paragraph 47, 50, 51).

23.   Regarding **claim 12,** Mangipudi discloses the load information includes one or more load

values representing processing functions internal to a server computer (page 6, paragraph 51,

page 7, paragraph 57).

24.   Regarding **claim 13,** Mangipudi discloses a server cluster operated to provide a load-

balanced network service, the server cluster comprising:

        a) a plurality of server computers individually responsive to service requests to perform

corresponding processing services, wherein said server computers are operative to initially

respond to said service requests to provide load and weight values, wherein said load and weight

values represent the current operating load a policy-based priority level of a respective server

computer relative to a particular service request (page 3, paragraph 21, 24, page 4, paragraph 38,

page 5, paragraph 44, page 6, paragraph 47, 51, 55, 56 and page 7, paragraph 57); and

b) a host computer system operative to autonomously issue the service requests

respectively to the plurality of server computers, the host computer system further operative to

select a target server computer from the plurality of server computers to receive on instance of

the particular service request based on the load and weight values (page 2, paragraph 18, page 4,

paragraph 38, page 5, paragraph 44, fig. 2).

With respect to the step of a plurality of server computers individually responsive to

service requests to perform corresponding processing services, wherein the server computers are

operative to initially respond to said service requests to provide load and weight values,

Mangipudi discloses "each request is serviced by transmitting a response from at least one

servers to the client device that transmitted the request. Each server in the group or cluster is

capable of responding to requests of other servers in the group to promote load sharing within the

group" (page 5, paragraph 44) and the intelligent agents deployed on each server monitor several

server attributes/parameters including the load information and report back to the policy engine

at the router for maintaining service level requirements for each class (page 5, paragraph 55). It

would have been obvious for one of an ordinary skill in the art, at the time the invention was

made, that servers in Mangipudi's system provides their information and responding to service

requests to maintain the service level requirement as necessary.

25.   Regarding **claim 14**, Mangipudi discloses the host computer is operative to collect the

load and weight values from the plurality of server computers in connection with the issuance of

respective service requests to the server computers and the selection of the target server

computer is based on the relative temporal age of the load and weight values (page 2, paragraph

18, page 5, paragraph 44, page 6, paragraph 55).

26.   Regarding **claim 15**, Mangipudi discloses each of the server computers include a policy

data set store that provides for the storage of a distinct server configuration and the load and

weight values are dynamically determined by the server computers in response to the service

requests based on the distinct server configurations of the server computers (page 4, paragraph

38, page 5, paragraph 44, page 7, paragraph 59, 60).

27.   Regarding **claim 16**, Mangipudi discloses the distinct server configurations include the

distinct identities of the server computers (page 4, paragraph 38, page 6 – 7, paragraph 56).

28.   Regarding **claim 17**, Mangipudi discloses the distinct server configurations include

distinct policy data relative to the service requests, wherein the host computer system is

operative to collect, relative to respective service requests, and provide attribute data to server

computers, and wherein the server computers evaluate the attribute data in conjunction with the

distinct policy data to determine the weight values (page 4, paragraph 38, page 6, paragraph 55,

page 7, paragraph 60 – 62).

29.   Regarding **claim 18**, Mangipudi discloses the plurality of sever computers implement a

security processing service, wherein the host computer system is operative to selectively route

network transported data through the server computers dependent on the service requests as

evaluated by the plurality of the server computers (fig. 4, page 4, paragraph 40, page 5, paragraph 44, 45).

30.   Regarding **claim 19**, Mangipudi discloses the host computer is operative to initiative respective data transfer transactions for each of the server requests, wherein the default routing of each data transaction initially provides for the transfer of corresponding ones of the service requests to respective ones of the plurality of server computers, and wherein the respective ones of the server computers determine whether the subsequent routing of network data within the respective data transfer transactions includes routing the network data within the respective data transfer transactions through the server computers (page 4, paragraph 38, 39, page 6, paragraph 51, page 7, paragraph 62, page 5, paragraph 44).

31.   Claims 20 – 24 and 31- 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mangipudi et al. (US Pat. Application Publication 2004/0162901) in view of Ballard (US 6,078,960).

32.   Regarding **claim 20**, Mangipudi discloses a computer system providing, on behalf of a client computer systems, a network service through a scalable cluster of server computer systems, the system comprising:

a) a plurality of server computers coupled to provide a defined service, wherein a server computer of the plurality provides a response, including load information, in acknowledgment of a predetermined service request issued to the server computer system, the response selectively

including nonacceptance of the predetermined service request (page 4, paragraph 38, page 6,

paragraph 51, page 7, paragraph 62).

Mangipudi did not clearly disclose the additional limitation as claimed. Nevertheless,

Ballard discloses the system comprising a client computer system having an identification list of

the server computer systems, the client computer system being operative to autonomously select

a first server computer system from the identification list to which to issue the predetermined

service request, wherein the client computer system is reactive to the response, on indicated

nonacceptance of the predetermined service request, to autonomously select a second server

computer system from the identification list to which to issue the predetermined service request,

and wherein the client computer system is responsive to load information of the response in

subsequently autonomously selecting the first and second server computer systems (col. 1, lines

46 – 56, col. 2, lines 11 – 28, col. 6, lines 52 - 64). Thus, it would be obvious for one of an

ordinary skill in the art, at the time of the invention was made, to incorporate Ballard's feature to

Mangipudi's system to provide a more reliable and flexible technique for achieving load

balancing of client demand (Ballard: col. 1, lines 39 – 41).

33.   Regarding **claim 21**, as modified Mangipudi discloses the response further includes

weight information and wherein the client computer system evaluates the combination of the

load and weight information in autonomously selecting server computer systems from the

identification list (Ballard: figs. 4A, 4B, col. 1, line 53 – 56, 63 – 65, col. 2, lines 6 – 27).

34.   Regarding **claim 22**, as modified Mangipudi discloses the plurality of server computer

systems include respective policy engines and wherein the weight information reflects an

association between a server computer policy role and the predetermined service request

(Mangipudi: page 3, paragraph 21).

35.   Regarding **claim 23**, as modified Mangipudi discloses the predetermined service request

includes predetermined client process attribute information and wherein the respective policy

engines are responsive to the predetermined client process attribute information in determining

the server computer policy role relative to the predetermined service request (Mangipudi: page 4,

paragraph 38, page 5, paragraph 44, page 6, paragraph 55).

36.   Regarding **claim 24**, as modified Mangipudi discloses the load information includes a

value representing network and server processor performance (Mangipudi: page 4, paragraph 39,

page 5, paragraph 47, 48, 50, 55).

37.   **Claim 31** is rejected on the same ground as stated in claim 20 above.

38.   Regarding **claim 32**, as modified Mangipudi discloses the instance selection information

includes a relative weighting value reflective of the combination of the particular client request

and the particular target server system and wherein the step of selecting matches the particular

client request, including the attribute data, against corresponding data of the accumulated

selection information to choose the particular target server system based on a best corresponding

combination of relative weighting value and load value (Ballard: fig. 4a, 4b and col. 2, lines 17 –

28).

39.   Regarding **claim 33**, as modified Mangipudi discloses the step of selecting includes a

step of aging the accumulated selection information (Ballard: fig. 4a, 4b and col. 2, lines 17 –

28).

40.   **Claim 34** is rejected on the same ground as stated in claim 7 above.

41.   Regarding **claim 35**, as modified Mangipudi discloses the host process is executed on a

client computer system (Ballard: col. 1, lines 44 – 67).

42.   Regarding **claim 36**, as modified Mangipudi discloses the host process is executed on a

gateway computer system couple through a communications network with a plurality of client

computer systems (Mangipudi: figs. 2 and 3).

43.   Claims 29 - 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ballard

(US 6,078,960), as applied to claim 25 above, in view of Mangipudi et al. (US Pat. Application

Publication 2004/0162901).

44.   Regarding **claim 29**, Ballard did not clearly disclose the additional limitation as claimed.

Nevertheless, Mangipudi discloses the instance selection qualification information includes a

relative prioritization of the particular client request with respect to the particular server

computer system (page 3, paragraph 21, page 5, paragraph 44). It would have been obvious for

one of an ordinary skill in the art, at the time the invention was made, to incorporate the feature

from Mangipudi to Ballard's system so that requests can be classified into class of service and be served accordingly to their priority.

45.   Regarding **claim 30**, as modified Ballard discloses the client requests are issued with respect to client computer systems, wherein the particular client request includes attributes descriptive of a particular client computer system that issued the particular client request, and wherein the relative prioritization reflects the evaluation of the attributes with respect to the particular server computer system (Mangipudi: page 4, paragraph 38, page 5, paragraph 44, page 6, paragraph 55).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lilian Vo whose telephone number is 571-272-3774. The examiner can normally be reached on Monday - Friday, 8am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist at 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lilian Vo
Examiner
Art Unit 2195

lv
July 24, 2005

MAJID BANANKHAH
PRIMARY EXAMINER